

Is careless responding also a problem in face-to-face mode? Analysis of PIAAC noncognitive data.

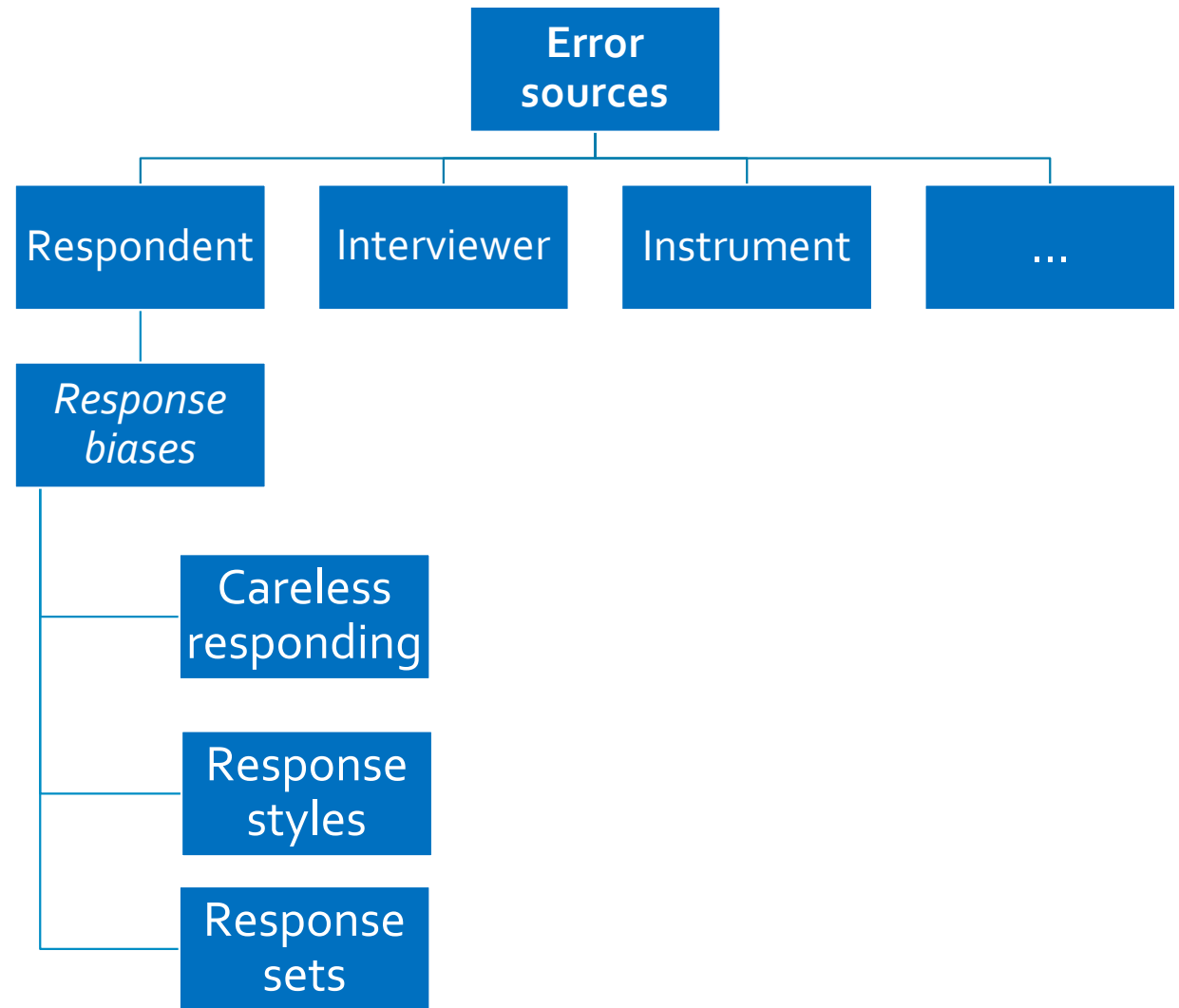
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Response biases in self-reports

- Self-report – one of the fundamental research methods in social sciences (Paulhus & Vazire, 2007)
- only method in 30% of papers (Woszczyński & Wittman, 2004) ; present in more than 60% of papers (Brutus et al., 2010)
- ca. 55% papers from *American Sociological Review* and ca. 39% from *American Journal of Sociology* used self-reports (Bruckner, 2009)
- Important part of every large-scale assessment project (PIAAC, PISA, TIMSS, etc.)
- Response biases danger (Khorramdel et al., 2017, 2019; Lechner et al., 2019; Palczyńska & Rynko, 2021; Rammstedt et al., 2017; Ulitzsch et al., 2021)

Response biases in self-reports



Careless responding



Careless responding – what?

Careless responding

- Careless/insufficient effort responding (C/IER)
- Responding without sufficient effort, understanding or regard towards items' content and/or survey instructions (Meade & Craig, 2012; Huang et al., 2012, 2015; Ulitzsch et al., 2021)
- Satisficing (Krosnick, 1991)
- Due to low interest, fatigue, no social contract, environmental/psychological distractions (Meade & Craig, 2012)
- May follow different patterns: (pseudo)random responding, straightlining, fixed lining (diagonal, snake), etc.

Careless responding – why?

Careless responding

- Careless/insufficient effort responding (C/IER) does not reflect traits to be measured (Ulitzsch et al., 2021)
- Threat to construct and criterion-related validity (Haung et al., 2015; McGrath et al., 2010)...
- ... and to scales' psychometric properties, e.g. reliability, factor structure (De Simone et al., 2018)

Careless responding – why?

Careless responding

- Previous studies concentrate on self-completion mode and on web-surveys
- Less evidence on C/IER in the CAPI-mode assessments

Careless
responding –
how?

PIAAC – used variables

- Data from:
 - 209 997 participants
 - 37 countries from all three PIAAC cycles
 - C/IER indices for „H” part of the questionnaire: reading, writing, numeracy, and ICT skills in everyday life (25 items, 1:5)
 - 2 256 participants eliminated due to all missings for the „H” part (1.07% of sample)

Careless responding – how?

C/IER indices used

- „careless” R package (Yentes & Wilhelm, 2018/2021)
- Mahalanobis distance
- Longstring (Meade & Craig, 2012; Kim et al., 2019)

Careless
responding –
how?

C/IER indices cut-off thresholds

- Liberal: 95th quantile Mahalanobis and IRV, 75% longstring
- Conservative: 99th quantile Mahalanobis and IRV, 100% longstring

(Curran, 2016; Ulitzsch et al., 2021)

Careless
responding –
how?

Indicators of C/IER clearance

- Internal consistency (Cronbach's Alpha)
- Construct validity – correlation with other background scales
- Criterion-related validity – correlation with cognitive tests

Careless
responding -
results

Results – internal consistency

Scale	Overall	C/IER liberal	C/IER conservative
Reading	0.73 (8 items)	0.73	0.73
Writing	0.50 (4 items)	0.48	0.49
Numeracy	0.73 (6 items)	0.72	0.73
ICT use	0.58 (7 items)	0.58	0.58

Careless
responding -
results

Results – construct validity

Scale	Overall	C/IER liberal	C/IER conservative
Reading	0.51	0.52	0.51
Writing	0.38	0.39	0.38
Numeracy	0.43	0.44	0.43
ICT use	0.35	0.36	0.35

Careless
responding -
results

Results – criterion-related validity

Scale	Overall	C/IER liberal	C/IER conservative
Reading	0.43	0.45	0.44
Writing	0.35	0.38	0.36
Numeracy	0.35	0.40	0.38
ICT use	0.34	0.35	0.34

Careless responding - conclusions

Conclusions

- C/IER seems to be a limited threat to PIAAC data...
- ... or maybe the thresholds were too liberal as...
- ...liberal thresholds enable to increase validity (though only a tiny bit)
- Spurious reliability due to (alleged) straightlining (+ no reversed items)
- Empirical mode comparisons seem to be rare in the field?
- Experiments in CAPI surveys are also limited
- Research should continue as LSAs are not absolved from response biases (e.g. Goldhammer et al., 2017; Lechner et al., 2019; Rammstedt et al., 2017)

Careless responding - ideas

Future studies/ideas

- Simulation studies to test sensitivity of various questionnaire data to C/IER in LSA contexts
- Interviewer-level analysis (Menold & Kemper, 2013):
 - Observational data (Loosveldt & Beullens, 2017)
 - Interviewer characteristics (Bittman, 2021; Jacobs et al., 2019)
- If CAWI used – paradata analysis to enhance classic indices (Horwitz et al., 2017, 2019; Ulitzsch et al., 2021)
- More advanced C/IER indices (Mansolf & Reise, 2018; Yentes, 2020; also Nissen et al., 2016)
- Non-threshold approach (PCA; Huang et al., 2015; LCA; Meade & Craig, 2012; Ulitzsch et al., 2021)

Careless responding - ideas

Future studies/ideas

- C/IER in cognitive assessment vs. in background questionnaire
- % of sample screened out as C/IER
- Interviewer effects
- C/IER as a trait – use panel data (Canadian PIAAC?)
- Cultural differences:
 - Mechanisms
 - Differences: perform analysis on different ILSAs (PIAAC, PISA, TIMSS, ESS, etc.), and on different waves (e.g. all PISA waves)

Thank you !

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